

## REMARKS

Claims 32-40, 42, 43, 47-55, 57, 58, 61, 68-75, and 83 are pending in the application with claims 38, 40, 53, 55, 61, 73, and 83 amended herein. Applicant expresses appreciation for allowance of claims 32-37, 42, 43, 47-52, 57, 58, 68-72, 74, and 75.

Claims 38-40, 53-55, 61, 73, and 83 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al, "Textural and Microstructural Gradient Effects on the Mechanical Behavior of a Tantalum Plate," (hereinafter Wright). Applicant requests reconsideration.

Amended claim 38 sets forth a tantalum disc including at least about 99.95 wt% Ta and consisting of grains exhibiting a maximum grain size of less than 50 microns. Page 4 of the Office Action alleges that the open transitional phrase "comprising" allows the inclusion of non-claimed elements including grain sizes outside the range of less than 50 microns. Without admitting to the propriety of such allegation, Applicant herein amends claim 38 to set forth the closed transitional phrase "consisting of." Clearly, the tantalum disc of amended claim 38 does not contain grains exhibiting a grain size greater than or equal to 50 microns. At least for such reason, Wright fails to disclose or suggest every limitation set forth in claim 38.

Page 4 of the Office Action further states that "maximum grain size" is interpreted by the Office to mean "maximum average grain size." Such interpretation improperly inserts an unintended term. The Office is reminded that the patent statutes require claims to be interpreted in accordance with what the Applicant regards as its invention, not as to what the Office regards as the invention. Accordingly, the Office

must read the claims as Applicant regards them (as they are worded), not as the Office might regard them. The Office must interpret the claims in accordance with their literal wording and such is mandated now. If the Office relies upon language not appearing in the claims, then the Office may suggest insertion of such language and Applicant can respond as it deems appropriate. At present, the Office is precluded from interpreting the claim 38 as alleged. At least for such additional reason, Wright fails to disclose every limitation set forth in claim 38. Claim 39 depends from claim 38 and is patentable over Wright at least for such reason as well as for the additional limitations of such claim not disclosed or suggested.

Amended claim 40 sets forth a tantalum disc consisting of grains exhibiting an average grain size of about 25 microns and a maximum grain size of less than 50 microns. As may be appreciated from the discussion above regarding the deficiencies of Wright as applied to claim 38 in disclosing the claimed maximum grain size, Wright fails to disclose or suggest every limitation of claim 40.

Amended claims 53, 55, and 61 set forth, among other features, plates consisting of grains exhibiting a maximum grain size of less than 50 microns. At least for such reason, claims 53, 55, and 61 are patentable over Wright. Claim 54 depends from claim 53 and is patentable at least for such reason as well for the additional limitations of such claim not disclosed or suggested.

Amended claim 73 sets forth a tantalum sputtering target that includes at least about 99.95 wt% Ta and a uniform texture across a surface and throughout a thickness of the target. Page 4 of the Office Action states that "substantially uniform texture" is a broad relative term and that it fails to distinguish over uniformity allegedly taught in

Wright. Without admitting to the propriety of such allegation, the term “substantially” is deleted from claim 73 and Applicant asserts that the claimed subject matter at least as amended distinguishes over Wright.

Amended claim 83 sets forth tantalum metal consisting of a texture in which a {100} pole figure has a center peak intensity of at least about 17 random. Page 5 of the Office Action states that the open transitional phrase “comprising” allows the inclusion of non-claimed elements such as other textures in addition to the claimed texture. Without admitting to the propriety of such allegation, Applicant herein amends claim 83 to set forth the closed transitional phrase “consisting of.” Accordingly, the tantalum metal of claim 83 does not encompass a texture in which a {100} pole figure has a center peak intensity of less than 17 random. At least for such reason, Wright fails to disclose or suggest every limitation of claim 83.

Page 4 of the Office Action alleges that a person of ordinary skill would consider the tantalum metal of claim 83 to be obvious because the Wright composition overlaps or is substantially identical to the claimed composition and is made by a substantially identical process. However, such a finding ignores the express disclosure in the present specification of processes enabling manufacture of the claim 83 tantalum metal that are not disclosed or suggested in Wright. Page 7, lines 3-13 and page 13, line 19 to page 14, line 7 summarize the unique features of processes for manufacturing the tantalum metal of claim 83. Examples and more specific processing characteristics appear in the specification between the referenced summaries, such as on page 11, lines 6-22 and Fig. 4.

The Office Action does not identify any corresponding teachings in Wright. Wright page 2, Section II(A) relied upon by page 8 of the Office Action merely states that the studied material "was rolled and annealed vacuum arc-remelted tantalum plate." No additional processing details are disclosed in Wright. It appears that Wright merely states in the Introduction spanning pages 1 and 2 that tantalum plate having inhomogeneous texture can be produced by rolling and annealing. It is impossible to conclude that the claim 83 tantalum metal necessarily results from any process including rolling, annealing, and vacuum arc-remelting. Such cursory descriptions of processes do not establish that the Wright material is produced by the same processes as described by page 7, lines 3-13 and page 13, line 19 to page 14, line 7 of the present specification. Accordingly, adequate support does not exist for the Office's allegation that the tantalum metal of claim 83 and the tantalum plate with inhomogeneous texture in Wright are produced by substantially identical processes. At least for such additional reason, Wright fails to disclose or suggest every limitation of claim 83.

In keeping with Applicant's assertions herein and as further supported by the characterizations of Wright set forth in the previously filed Response to August 29, 2003 Office Action, Applicant asserts that Wright fails to disclose or suggest every limitation of claims 38-40, 53-55, 61, 73, and 83. Applicant requests allowance of such claims in the next Office Action.

Claims 38-40, 53-55, 61, 73, and 83 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Friedman, "Grain Size Refinement in a Tantalum Ingot," (hereinafter Friedman). Applicant requests reconsideration.

Page 5 of the Office Action states that Friedman suffers from the same deficiencies as described on page 3 for Wright. Additionally, the identical justifications and allegations relied upon with regard to Wright are relied upon by pages 5-7 to allege that the rejected claims are not patentable over Friedman. However, it will be appreciated from the amendments made herein and Applicant's comments above that all rejected claims are likewise patentable over Friedman.

Applicant specifically notes, with regard to claim 83, that the Office Action again does not support an allegation that the tantalum metal of claim 83 and the material of Friedman are produced by substantially identical processes. Friedman page 1, column 1, first paragraph relied upon by page 8 of the Office Action merely describes a upset-extrude cycle including annealing heat treatments to induce recrystallization. Friedman does not contain any disclosure or suggestion of the unique processes summarized on page 7, lines 3-13 and page 13, line 19 to page 14, line 7 and elsewhere within the present specification. At least for such additional reasons, claim 83 is patentable over Friedman.


Page 8 of the Office Action states that Applicant must provide reasoning that the Wright or Friedman processing would not result in the claimed structures. However, the Office must first meet its burden to identify processes in Wright or Friedman substantially identical processes to those set forth in the present specification. Wright and Friedman are so vague and broad with regard to processing details that they cannot be held to disclose or suggest substantial identical processes.

At least for the reasons indicated herein, Applicant asserts that claim 32-40, 42, 43, 47-55, 57, 58, 61, 68-75, and 83 are patentable over the cited references and requests allowance of all such pending claims in the next Office Action.

Further, Applicant requests an initialed copy of two Information Disclosure Statements and Form PTO-1449's initially submitted to the U.S. Patent and Trademark Office on December 1, 2003 and February 27, 2004, respectively. To the extent the PTO-1449 has not already been initialed in the file, such examination and initialing is requested at this time, and returning of a copy to the undersigned.

Respectfully submitted,

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By:   
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